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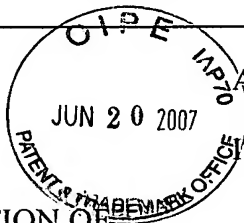
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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In re application of: Anne L. Testoni



Attorney Docket No.: KLA1P100/P1087

Patent: 7,132,652 B1

Issued: November 7, 2006

Title: AUTOMATIC CLASSIFICATION OF  
DEFECTS USING PATTERN RECOGNITION  
APPLIED TO X-RAY SPECTRA

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**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as first-class mail on June 15, 2007 in an envelope addressed to the Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450.

Signed: \_\_\_\_\_

Aurelia M. Sanchez

**REQUEST FOR CERTIFICATE OF CORRECTION  
OF OFFICE MISTAKE  
(35 U.S.C. §254, 37 CFR §1.322)**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450  
Attn: Certificate of Correction

**Certificate**  
**JUN 21 2007**  
**of Correction**

Dear Sir:

Attached is Form PTO-1050 (Certificate of Correction) at least one copy of which is suitable for printing. The errors together with the exact page and line number where the errors are shown correctly in the application file are as follows:

**CLAIMS:**

1. In line 2 of claim 5 (column 10, line 9) change "classes" to --class--. This appears correctly in Amendment C as filed on April 27, 2006, on page 3, paragraph 4, line 3.
2. In line 2 of claim 20 (column 11, line 52) change "classes" to --class--. This appears correctly in Amendment C as filed on April 27, 2006, on page 6, paragraph 10, line 3.

**JUN 21 2007**

Patentee hereby requests expedited issuance of the Certificate of Correction because the error lies with the Office and because the error is clearly disclosed in the records of the Office. As required for expedited issuance, enclosed is documentation that unequivocally supports the patentee's assertion without needing reference to the patent file wrapper.

It is noted that the above-identified errors were printing errors that apparently occurred during the printing process. Accordingly, it is believed that no fees are due in connection with the filing of this Request for Certificate of Correction. However, if it is determined that any fees are due, the Commissioner is hereby authorized to charge such fees to Deposit Account 500388 (Order No. KLA1P100).

Respectfully submitted,  
BEYER WEAVER LLP

A handwritten signature in black ink, appearing to read 'Mary R. Olynick', with a long horizontal flourish extending to the right.

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MIN 21 2007

directing a charged particle beam toward the unknown specimen; and

detecting X-rays emitted from the unknown specimen in response to the charged particle beam, wherein the detected X-rays form X-ray data having one or more intensity values at one or more energy levels.

4. (original) A method as recited in claim 1, wherein the unknown specimens and the known specimen are each a semiconductor device or test structure.

5. (currently amended) A method as recited in claim 1, wherein ~~the known and the unknown characteristic are each a defect and the known~~ first class is a ~~classes are known defect~~  
classes:

6. (currently amended) A method as recited in claim 5, wherein the known defect classes includes a specified defect compositions.

7. (currently amended) A method as recited in claim 5, wherein each the known defect class includes one or more characteristics selected from a group consisting of a particular defect composition, a defect location, an electrical type defect, and an open type defect.

8. (currently amended) A method as recited in claim 5, wherein each the known defect class includes a particular film thickness.

9. (currently amended) A method as recited in claim 1, wherein setting up the pattern recognition process comprises:

training a pattern recognition process to recognize particular types of X-ray data as belonging to ~~one of~~ the known classes.

10. (original) A method as recited in claim 9, wherein the pattern recognition process is selected from a group consisting of a neural net algorithm, a natural grouping algorithm, and a wavelet algorithm.

provide X-ray data from an unknown specimen having an unknown characteristic of an unknown class; and

utilize the pattern recognition process to automatically classify the unknown characteristic of the unknown specimen as belonging to the first class based on the X-ray data from the unknown specimen.

17. (original) An apparatus as recited in claim 16, wherein providing the X-ray data from the known specimens comprises:

directing a charged particle beam toward each known specimen; and

detecting X-rays emitted from the each known specimen in response to the charged particle beam, wherein the detected X-rays form X-ray data having one or more intensity values at one or more energy levels.

18. (original) An apparatus as recited in claim 17, wherein providing the X-ray data from the unknown specimen comprises:

directing a charged particle beam toward the unknown specimen; and

detecting X-rays emitted from the unknown specimen in response to the charged particle beam, wherein the detected X-rays form X-ray data having one or more intensity values at one or more energy levels.

19. (original) An apparatus as recited in claim 16, wherein the unknown specimens and the known specimen are each a semiconductor device or test structure.

20. (currently amended) An apparatus as recited in claim 16, wherein ~~the known and the unknown characteristic are each a defect and the known~~ first class is a ~~classes are known~~ defect classes.

21. (currently amended) An apparatus as recited in claim 20, wherein the known defect classes includes defect compositions.

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(Also Form PT-1050)

**UNITED STATES PATENT AND TRADEMARK OFFICE  
CERTIFICATE OF CORRECTION**

PATENT NO. : 7,132,652 B1

Page 1 of 1

DATED : November 7, 2006

INVENTOR(S) : Anne L. Testoni

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

**In the Claims:**

In line 2 of claim 5 (column 10, line 9) change "classes" to --class--.

In line 2 of claim 20 (column 11, line 52) change "classes" to --class--.

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PATENT NO. 7,132,652

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